

Chapter IV

Priority Health Needs

IV. Priority Health Needs

An assessment of Mississippi's health care system reveals gaps and unmet needs in several areas. The MSDH has identified the following priority health needs for Mississippi:

- Disease prevention, health protection, and health promotion
- Health care for specific populations, such as mothers, babies, the elderly, the indigent, the uninsured, and minorities
- Implementation of a statewide trauma system
- Health needs of persons with mental illness, alcohol/drug abuse problems, and/or mental retardation/developmental disabilities
- Availability of adequate health manpower throughout the state
- Enhanced capacity for detection of and response to public health emergencies, including acts of bioterrorism.

Disease Prevention, Health Protection, and Health Promotion

Many of the health problems that plague Mississippians are the result of the state's social, economic, and educational conditions. Mississippi has the second lowest per capita and family income in the nation. Information from the 2000 U.S. Census showed that the state ranks below the national average in the percentage of its population who are high school graduates and college graduates. Mississippi continues to lead the nation in infant death rate, teenage pregnancy, births to unwed mothers, and sexually transmitted diseases (especially syphilis). However, with the state's improved economic situation, many of these problems are being aggressively addressed.

Ten leading causes resulted in 80.4 percent of all deaths in Mississippi during 2002, as discussed in Chapter III. Lifestyle choices are a contributing factor to many of the leading causes of death; most of the premature death, injury, and disability in Mississippi is related to only six risk factors: tobacco use, poor diet, sedentary lifestyle, intentional and unintentional injury, drug and alcohol abuse, and sexual behavior.

Early detection and prevention efforts can greatly influence other factors. For example, a screening and treatment program for hypertension can help avoid some of the costs associated with premature death and disability due to heart disease and stroke. Other prominent factors contributing to heart disease and stroke are cigarette smoking, elevated blood cholesterol levels, diabetes, and obesity. Almost all of these factors can be averted with proper preventive measures.

Prevention costs significantly less than managing disease or disability. Mississippi's high rates of mortality and morbidity in many areas cause high costs for health and social services. Properly directed and increased expenditures for such preventive services as prenatal care, family planning services, cardiovascular disease prevention, targeted screening, and health education could help avoid greater expenditures in the future from premature births, teenage pregnancies, heart disease, stroke, accidents, tuberculosis, sexually transmitted diseases (including HIV/AIDS), and other problems. Continued and increased support in disease prevention and health promotion is a cost effective approach toward improving the health status of Mississippians.

The MSDH maintains numerous programs directed toward disease prevention and health promotion. For example, its Office of Epidemiology provides a statewide surveillance program to monitor and investigate the occurrence and trends of reportable diseases and provides consultation to health care professionals and the public on communicable disease control and prevention. The immunization program provides and supports services designed to ultimately eliminate morbidity and mortality due to childhood vaccine-preventable diseases. The HIV/AIDS prevention and sexually transmitted disease programs offer treatment and drug counseling, testing, and referral services. The

Office of Health Promotion directs activities in areas such as injury/violence prevention and control, physical activity, worksite health promotion, cardiovascular disease and diabetes prevention and control, school health, community health promotion, and tobacco prevention and cessation.

In addition, the Mississippi Legislature has authorized a Mississippi Council on Obesity Prevention and Management and a Task Force on Heart Disease and Stroke Prevention. With the assistance of the Department of Health, these groups will develop a comprehensive statewide plan to address each of these critical public health problems. The MSDH is also developing state plans related to arthritis and diabetes in Mississippi.

Chapter VII presents more information on health promotion, health protection, and disease prevention programs administered through the MSDH and other agencies.

Health Care for Specific Populations

Mothers and Babies

Mississippi has high rates of infant mortality, low birthweight, and teenage pregnancy. Contributing factors are late or inadequate prenatal care; unhealthy lifestyle factors such as inadequate prenatal nutrition, maternal smoking, or substance abuse; medical or congenital disorders; low socioeconomic status; and low educational attainment. To combat these problems, the state must ensure that all persons receive the services necessary to prevent unplanned pregnancies and to promote healthy pregnancies and births. These services include:

- early health education to encourage teenagers to postpone sexual involvement;
- accessible family planning services to prevent unplanned pregnancies;
- comprehensive and risk-appropriate prenatal care, including medical, nursing, nutritional, educational, and social services, to ensure optimal pregnancy outcome;
- obstetrical delivery at a hospital appropriate for the level of patient risk involved; and
- regular pediatric assessments, timely childhood immunizations, and sick care for the infant to ensure a healthy start in life.

The MSDH provides maternity services statewide through county health departments, targeting pregnant women whose incomes are at or below 185 percent of the federal poverty level. Since 1984, a Task Force on Infant Mortality has assisted the MSDH in developing strategies to prevent unintended pregnancies, encourage comprehensive prenatal care, implement regionalized perinatal services, and improve access to prenatal and delivery care. Improvements resulting from the efforts of this Task Force include the expansion of Medicaid eligibility for pregnant women and for infants and children; implementation of case management and enhanced services for high risk pregnant women and infants; development of a regionalized perinatal care system; and school nurse programs. The MSDH also involves itself in special maternity/perinatal service initiatives, including a Perinatal High Risk Management/Infant Services System (PHRM/ISS) to reduce low birthweight and infant mortality through a comprehensive array of supplemental services. Chapter X provides more information on these programs.

In addition, the MSDH provides other programs/projects aimed at identifying contributing factors to infant mortality or factors that may lead to special developmental needs of an infant. These include:

- **Pregnancy Risk Assessment Monitoring System (PRAMS):** PRAMS is part of the Centers for Disease Control and Prevention initiative to reduce infant mortality and low birthweight. It is an ongoing, population-based, state-specific source of information on selected maternal behaviors and experiences that occur before and during pregnancy and during a child's early infancy.

- **Maternal and Infant Mortality Surveillance System (MIMS):** MIMS is a surveillance system through which maternal and infant death data are collected and reviewed. The purpose of these reviews is to understand how a wide array of local, social, economic, public health, educational, environmental, and safety issues relate to the tragedy of the loss.
- **Genetic Services:** These services include hemoglobinopathy services (screening, education, follow-up, and treatment); clinical genetics (genetics clinics, education, and treatment); newborn screening (recently expanded to include 40 genetic disorders); Birth Defects Registry (birth defects database, registry, and tracking); and case management and provider education to more than 70 hospital nurseries, laboratories, and 120 health department clinics.
- **Early Hearing Detection and Intervention Program:** This program is responsible for the universal newborn hearing screening program, including testing, diagnosis, tracking, and follow-up. Children identified through this program as having a hearing loss are referred to the MSDH Early Intervention program for services and follow-up.

Maternal and Child Health Five-Year Needs Assessment

Every five years, the Maternal and Child Health Bureau requires states to conduct a needs assessment to assure the appropriateness of each state's maternal and child health (MCH) services. The MCH staff is currently developing the needs assessments for FY 2005. The Title V MCH Needs Assessment Report 2000 creates a composite picture of the maternal and child health population in Mississippi. It describes the emerging needs of the population and the changes in the larger health care system which have occurred since the previous needs assessment in 1995. The report identifies the need for preventive and primary care services for pregnant women, mothers, and infants; preventive and primary care services for children, including adolescents; and services for children with special health care needs.

The current five-year needs assessment reflects numerous needs for women, infants, children, adolescents, and children with special health care needs. The following is a list of priorities selected and prioritized as a means of improving the status of maternal and child health services in Mississippi as a result of the MCH needs assessment:

- Reduce repeat teen births;
- Improve data collection capacity for Title V populations;
- Explore coverage of asthma services for children;
- Increase EPSDT screening among children on Medicaid;
- Reduce the state's low birthweight rate and infant mortality rate;
- Develop a plan to identify, gather data on, and address issues related to maternal deaths;
- Decrease cigarette smoking among ninth through twelfth graders;
- Decrease the incidence of teen mortality and unhealthy behaviors;
- Assure access to pediatric care for all children, including children with special health care needs; and
- Decrease cigarette smoking among pregnant adolescents.

A new five-year assessment will be completed by 2005.

The Elderly

Although the majority of the state's younger elderly persons remain relatively healthy, general health and mobility decline with advancing years. About 25 percent of persons aged 85 or older cannot

perform the essential activities of daily living. These "frail elderly" persons require nursing home care or extensive medical and social support in the home.

However, few elderly persons can afford extended long-term care. Societal trends in the United States have produced smaller family units and fewer unemployed family members, making the option of home care by the family of elderly persons less available than in past years. Financing for physician care and medication becomes more difficult for the elderly as Medicare deductibles and co-insurance payments increase.

Home health services play an important role in providing needed health care for the homebound elderly, but the care is provided on an intermittent basis and is limited to skilled rehabilitative care. Most elderly people lack adequate financing for custodial care, leaving nursing home care as the only option for many. Medicaid is the primary payor for this expensive care; however, Medicaid has strict limits on the amount of income and assets a person may have and still receive assistance. In addition, the Legislature has limited the number of nursing home beds allowed to participate in the Medicaid program because of the tremendous cost of nursing home care.

The state must continue to examine ways to expand health care services for the elderly population. The Legislature has authorized expansion of current and creation of new home and community-based waiver programs through the Division of Medicaid. These programs are designed to allow Medicaid eligible individuals to avoid or delay institutionalization. The Division operates five waiver programs; two are specifically designed to assist elderly Mississippians: the Elderly Disabled Waiver and the Assisted Living Waiver. Services available through these waiver programs include case management, expanded home health, homemaker, adult day health, home delivered meals, escorted transportation, and in-home and institutional respite.

The MSDH endorses the continuing development of residential retirement communities, supervised living apartments, assisted living facilities, personal care homes, adult day care centers, respite care services, and home and community-based services. The MSDH encourages all skilled nursing homes participating in the Medicaid program to also participate in Medicare, supports the funding of a broad spectrum of senior citizen services, and recommends the limited expansion of nursing home beds in the state according to the statistical formula for Certificate of Need.

Chapter VIII provides additional information on long-term care.

The Indigent and Uninsured

The traditional sources of reimbursement for indigent care have not kept pace with the increased number of indigent patients, and some traditional sources have diminished. Two undesirable events occur as a result of these circumstances: (1) indigent persons delay or forego needed health care, resulting in increased morbidity and mortality; and 2) health care providers deliver increased amounts of uncompensated care, resulting in severe financial distress for providers who serve significant numbers of indigent patients. The medically indigent population is comprised of several groups of people:

- unemployed or self-employed persons with no health insurance;
- employees of small businesses and agencies which do not provide health insurance;
- part-time employees who are not eligible for health insurance;
- persons covered by insurance and in need of services not covered by insurance; and
- the uninsured and under-insured non-poor who experience high costs due to catastrophic illness.

The working poor who earn too much to qualify for Medicaid and who are not provided health insurance benefits by their employer are financially unable to purchase needed primary care services and create serious uncompensated care problems for service providers. Small rural hospitals, serving populations comprised of a large proportion of uninsured or under-insured individuals, are struggling to survive financially.

The cost of uncompensated care, shifted to the bills of paying patients, has doubled since 1980. The American Hospital Association estimates that about 16 percent is added to every medical bill of patients with private insurance to help defray the cost of indigent health care. However, hospitals are finding it increasingly more difficult to shift these costs. The largest health care customers – American businesses and industries through employee health insurance policies – have demanded discounts and lower prices. Additionally, as the organization and structure of health care delivery has changed from a cost-based reimbursement to a uniform prospective payment system, health care providers (particularly hospitals) are finding it difficult to continue traditional charity care for an increasing indigent population.

The high cost of uninsured health care bankrupts families as well. The elderly person who needs long-term care for a chronic illness is financially impoverished before Medicaid reimbursement becomes available. The young couple with a chronically ill child may face tremendous financial burdens and live on the edge of poverty to pay for care for their uninsurable child.

This situation also creates serious health problems for the individual. The Medicare recipient who receives a minimal Social Security payment must often decide between buying food or medicine and frequently forgoes essential health care. Uninsured individuals with chronic diseases cannot afford prescribed medication and therefore do not properly manage their illness. A pregnant woman delays prenatal care and thus endangers both her health and that of her unborn child.

While there are no precise measures of the number of Mississippians who have been refused health care, or of the amount of charity care provided, there are some useful indicators of the extent of medical indigence, including the number of persons who have no health insurance. Nationally, about 17 percent of the non-elderly population has no health insurance. Approximately 518,000 or 22.1 percent of the non-elderly population in Mississippi has no health insurance, according to the Employee Benefit Research Institute.

Minorities

Advances in technology, medication, treatment, and disease management have led to marked improvements in the health and longevity of Americans. However, gaps between the health status of whites and nonwhites continue to show disturbing disparities. Reducing or eliminating such risk factors as smoking, improper nutrition, and substance abuse would decrease morbidity and mortality rates in the minority community. One or more of these factors contribute to all the conditions causing excess mortality among minority populations. Other factors include lack of early identification of disease, lack of access to health care, and poverty. Moreover, programs designed to reduce or eliminate high risk behaviors have more significantly benefitted the majority population.

Many of the factors contributing to excess deaths in the state's minority population are related to lifestyle. This situation emphasizes the need for health promotion and disease prevention within the minority community. The black male faces the greatest disparity in health indicators. He is more likely to die young, and the cause of death is usually homicide. Answers must be found to mitigate or stop the increase of black male homicide/violence.

Barriers to adequate health care for minorities include lack of access to the health care system, the cultural insensitivity of providers, and the lack of health insurance services. Possible solutions

include promoting health education for providers (especially minority providers), funding services and programs targeted to minorities, and evaluating the effectiveness of programs that minority groups need.

After receiving input from various citizens groups residing in Mississippi, the Mississippi State Department of Health developed a comprehensive plan to address the health problems unique to minority groups of the state, specifically African Americans. African Americans are the primary ethnic group statistically impacting Mississippi at this time; however, other racial and ethnic minorities are not ignored. The Plan can be used as a baseline for improvement of health care practices as other ethnic groups migrate to the state in larger numbers. The Plan, entitled *Plan to Eliminate Racial and Ethnic Health Care Disparities*, identifies poverty, the influx of large minority groups, lower educational levels, and limited health manpower, particularly in rural areas, as conditions that contribute to racial and ethnic health care disparities. The Plan emphasizes cardiovascular disease, diabetes, cancer screening, HIV/AIDS, child/adult immunization, and infant mortality as six areas of health care disparities most often experienced by minority groups at all life stages.

After health care data was collected and evaluated, five issues emerged as methods to eliminate health care disparities in multiple racial and ethnic minority groups. These issues include cultural competency, prevention/education, accessibility/availability, funding/finance, and legislation. The Plan addresses strategies, action steps, and desired outcomes. Strategies include the creation of partnerships to provide health insurance coverage, increasing the number of under-represented minorities in health professions, increasing the number of consumers on health care provider boards, increasing community health education outreach activities of hospital and health care agencies, and preparing health and human service professionals for patient cross-cultural relationships. Action steps to facilitate these strategies include creating partnerships with other state agencies, faith-based agencies, community-based organizations, and provider groups to strengthen the ability to fully serve and effectively address the health care needs of all citizens in the state.

A full text of the Plan is available on the MSDH website at msdh.state.ms.us.

Implementation of a Statewide Trauma System

Trauma is the leading cause of death for all age groups in Mississippi from birth to age 44. Serious injury and death resulting from trauma events such as vehicle crashes, falls, and firearms claim 2,000 lives and disable 6,000 Mississippians each year. Trauma victims require immediate, expert attention.

Following the recommendations of a Trauma Care Task Force, the Mississippi Legislature gave the MSDH authority to develop a statewide trauma care system and established a permanent trust fund to finance the system. The Trauma Care Trust Fund receives funding through a \$5 assessment on all moving traffic violations. The fund provides administrative functions at both the state and regional levels.

The Mississippi Legislature added \$6 million to the Trauma Care Trust Fund during the 1999 session, increasing the annual Trust Fund to approximately \$8 million. Funds are available for designated Trauma Care Regions through annual contracts with the MSDH Bureau of EMS. The fund is divided between designated trauma center hospitals and eligible physicians on an allocation of 70 percent to hospitals and 30 percent to physicians. During 2002, a total allocation of \$7,030,454 was distributed to 70 hospitals and 314 surgeons for trauma care.

The MSDH has designated seven trauma care regions; each is incorporated as a 501c-3 organization and contracts with the MSDH to develop and implement a Regional Trauma Plan. The Mississippi Trauma Care System Plan received approval in October 2002 and includes the seven regional trauma plans. The plan allows for trauma patients to be transported to the “most appropriate” trauma facility for their injuries.

Designation levels set specific criteria and standards of care that guide hospital and emergency personnel in determining the level of care a trauma victim needs and whether that hospital can care for the patient or transfer the patient to a Trauma Center that can administer more definitive care.

Level I Trauma Centers must have a full range of trauma capabilities, including an emergency department, a full-service surgical suite, intensive care unit, and diagnostic imaging. Level I Centers must have a residency program, ongoing trauma research, and provide 24-hour trauma service. These hospitals provide a variety of other services to comprehensively care for both trauma patients and medical patients. Level I Trauma Centers act as referral facilities for Level II, III, and IV Trauma Centers.

Level II Trauma Centers must be able to provide initial care to the severely injured patient. These facilities must have a full range of trauma capabilities, including an emergency department, a full service surgical suite, an intensive care unit, and diagnostic imaging. Level II Trauma Centers act as referral facilities for Level III and IV Trauma Centers. For specialty care a patient may be transferred to a Level I Trauma Center.

Level III Trauma Centers must offer continuous general surgical coverage and have the ability to manage the initial care of many injured patients. Level III Trauma Centers must also provide continuous orthopedic coverage. Transfer agreements must be in place with Level I and II Trauma Centers for patients that exceed the Level III Trauma Center's resources. Level III centers may act as referral facilities for Level IV Trauma Centers.

Level IV Trauma Centers provide initial evaluation and assessment of injured patients. Most patients will require transfer to facilities with more resources dedicated to providing optimal care for the injured patients. Level IV Trauma Centers must have transfer agreements in place with Level I, II, and III Trauma Centers.

Mississippi Trauma Care Regions

North Mississippi Trauma Care Region, Inc. serves an 18-county area in the northeast portion of the state, encompassing 8,777 square miles. Counties include: Alcorn, Benton, Choctaw, Clay, Chickasaw, Calhoun, Itawamba, Lee, Lafayette, Lowndes, Oktibbeha, Monroe, Pontotoc, Prentiss, Tippah, Tishomingo, Union, and Webster. There are 18 hospitals in the Region; 17 hospitals with emergency rooms are participating in the Mississippi Trauma Care System. The region has one fully designated Level IV hospital – Tippah County Hospital, Ripley, and two Level II hospitals - North Mississippi Medical Center, Tupelo, and Baptist Memorial Hospital/Golden Triangle, Columbia.

Delta Mississippi Trauma Care Region, Inc. serves a 19-county area in the west central portion of the state, encompassing 10,518 square miles. Counties include: DeSoto, Tunica, Tate, Marshall, Coahoma, Quitman, Panola, Bolivar, Sunflower, Tallahatchie, Yalobusha, Grenada, Leflore, Washington, Humphreys, Carroll, Montgomery, Sharkey, and Issaquena. There are a total of 19 hospitals in the Region; 16 hospitals with emergency rooms are participating in the Mississippi Trauma Care System.

Central Mississippi Trauma Care Region serves a 14-county, 9,616 square mile area in the west central portion of the state. Counties include: Attala, Claiborne, Copiah, Hinds, Holmes, Jefferson, Leake, Madison, Rankin, Scott, Simpson, Smith, Warren and Yazoo. The Region contains a total of 21 hospitals; 14 hospitals with emergency rooms are participating in the Mississippi Trauma Care System. The region has two fully designated Level IV hospitals– Rankin Medical Center, Brandon, and Scott Regional Hospital, Morton, and one Level I hospital - The University Hospital and Clinics, Jackson.

East Central Mississippi Trauma Care Region serves a seven-county area in the eastern portion of the state, including: Winston, Noxubee, Neshoba, Kemper, Newton, Lauderdale, and Clarke. There are a total of 10 hospitals with emergency rooms that are participating in the Mississippi Trauma Care System.

Southwest Mississippi Trauma Care Region serves a seven-county area in the southwest portion of the state. Counties include: Adams, Franklin, Wilkinson, Amite, Lincoln, Pike and Lawrence. There are a total of eight hospitals with emergency rooms participating in the Mississippi Trauma Care System. Lawrence County Hospital, a Level IV center, is the region's sole trauma center.

Southeast Mississippi Trauma Care Region serves a 13-county area in the southeastern portion of the state. Counties include: Covington, Forrest, Greene, Jasper, Jones, Lamar, Perry, Pearl River, Walthall, Marion, Wayne, Stone, and Jefferson Davis. There are 12 hospitals in this region, with ten participating in the Mississippi Trauma Care System. This region has a fully designated Level II trauma center - Forrest General Hospital in Hattiesburg, a Level III trauma center- South Central Regional Medical Center in Laurel, and two Level IV trauma centers - Wayne General Hospital in Waynesboro and L. O. Crosby Memorial Hospital in Picayune.

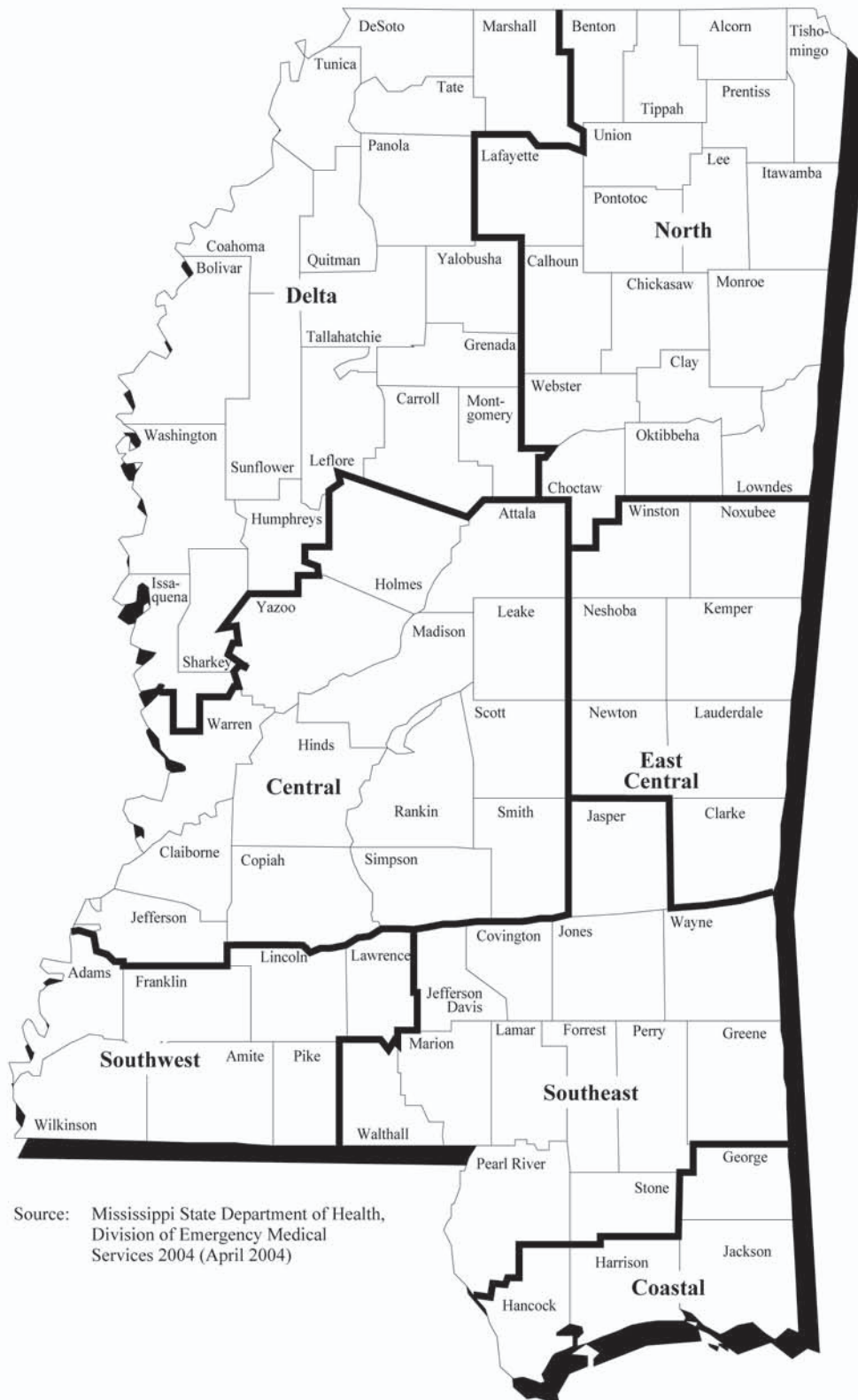
Coastal Mississippi Trauma Care Region serves four counties in the southern portion of the state: Jackson, Harrison, Hancock, and George. Seven hospitals participate in the Mississippi Trauma Care System. Presently, Gulf Coast Medical Center in Biloxi has been designated as a Level III Trauma Center, and Ocean Springs Hospital in Pascagoula as a Level IV Center.

In total, 91 percent of Mississippi hospitals with an emergency room are part of the Mississippi Trauma Care System. Map IV-1 shows Mississippi's seven Trauma Care Regions.

Map IV-1

Mississippi

Trauma Care Regions



Source: Mississippi State Department of Health,
Division of Emergency Medical
Services 2004 (April 2004)

Health Needs of Persons with Mental Illness, Alcohol/Drug Abuse Problems, and/or Mental Retardation/Developmental Disabilities

Access to a full range of care for persons with mental illness or alcohol/drug abuse problems could prove difficult. State government provides or finances the majority of mental health services, particularly residential treatment services. Mississippi has made a considerable investment in mental health facilities and services, and the state has a number of private sector facilities; yet, a substantial number of Mississippians cannot obtain needed mental health care. The high cost and limited third party coverage of private sector mental health services denies access to all but the wealthy or persons with exceptional health insurance coverage.

Efforts to improve access include additional facilities opened or under construction by the Mississippi Department of Mental Health; an increase in the number of group homes for persons with chronic mental illness, operated by state hospitals or regional mental health/mental retardation centers; and the opening of group homes for emotionally disturbed children to prevent institutional placement or to provide a placement for adolescents ready for discharge from the state hospital. The existing triad of the Department of Mental Health, regional community mental health/mental retardation centers, and private sector providers has the potential of supporting a comprehensive network capable of providing vitally needed services for persons with mental illness or mental retardation.

Mississippi Access to Care (MAC), a statewide initiative to assess and respond to the needs of individuals with disabilities, began in the fall of 2000. Participating in this initiative are persons with disabilities and their family members; service providers; associations; advocates; state agencies, including the Departments of Education, Health, Human Services, Mental Health, Rehabilitation Services, and the Division of Medicaid; local agencies; and any other persons or organizations interested in making the greatest possible independence available to those with disabilities. The MAC workgroup developed a written comprehensive plan which was submitted to the Legislature in October 2001 and considered during the 2002 session. The intent of the plan was to address the needs of persons with disabilities and their families and identify possibilities for bringing the goal of greater independence within closer reach.

First Steps Early Intervention Program (FSEIP) is Mississippi's early intervention system for infants and toddlers with special developmental needs and their families. First Steps is implemented through an interagency system of comprehensive developmental services for eligible infants and toddlers. The statewide system seeks to minimize the impact of a disabling condition on an infant or toddler and his or her family by identifying and utilizing community-based resources to the maximum extent possible. The process of connecting an eligible infant to the provision of services and transition of toddlers into an appropriate educational setting is well orchestrated in keeping with the regulations of the Individuals with Disabilities Education Act (IDEA) Part C.

Mississippi serves all eligible infants and toddlers and their families. The program provides child find, procedural safeguards, service coordination, evaluation and assessment, and transition services free of charge to families. After a comprehensive, multi-disciplinary evaluation and assessment, specialized developmental services may be provided to the child and family in accordance with an individualized family service plan (IFSP). All services are currently provided at no cost to families. Cost for specialized developmental services may be charged to private insurance or Medicaid. If the family has no form of insurance coverage, the MSDH as the lead agency may pay for services as "payor of last resort."

Availability of Adequate Health Manpower

Essential health service delivery requires an adequate supply and appropriate distribution of fully qualified physicians, nurses, and other health care personnel. Mississippi has an adequate total

of physicians to meet national standards; however, the physicians are maldistributed through the state. As of July 2004, 65 counties or portions of counties were designated as health professional shortage areas for primary medical care. Mississippi needs to further encourage the training of primary care physicians who will practice in designated underserved areas. Consideration should be given to using community hospitals more extensively for residency training in family medicine.

Approximately 40 percent of Mississippi's dentists practice in the two major metropolitan areas: Jackson and the Gulf Coast. The state's goal is to improve the distribution of dentists so that no county has more than 5,000 persons per dentist and primary dental care is available within 30 minutes travel time of all areas.

The Mississippi Nurses' Association (MNA) and 25 nursing organizations are working together through the MNA's Nursing Organization Liaison Committee to address nursing manpower issues related to anticipated changes in the workplace. Through the efforts of this group, the Mississippi Legislature authorized an Office of Nursing Workforce to develop a statewide model for predicting nursing manpower needs and to initiate methods of transitioning nurses as needed from jobs in the acute care setting to jobs in the community.

The supply of allied health professionals has increased in recent years, with the work force distributed to virtually all health care settings. Firm conclusions about the supply and demand for allied health personnel are difficult to draw, because very little data is available for the study of these groups of health professionals. However, officials believe that changes in the health care delivery system, the aging of the population, and advances in health service techniques and technology will continue to increase the demand for qualified technologists and technicians.

Chapter VI provides additional information on health care personnel in Mississippi.

In addition, the U.S. Health Resources and Services Administration (HRSA) supports the development of systems to improve access to preventive and primary care by providing funding, human resources, and technical assistance to states and community-based organizations. To support state efforts, funds are provided for cooperative agreements to maintain a Primary Care Office (PCO) in each of the 50 states, the District of Columbia, and Puerto Rico.

The Mississippi State Department of Health has housed a PCO for more than 18 years. The program is responsible for primary care needs assessment and plan development, health manpower recruitment, coordination of National Health Service Corps and foreign-trained providers, developing linkages with health professional schools, Health Professional Shortage Area designations, researching health care disparities, and assisting in marketplace analysis for primary care delivery sites. The PCO also assists in coordination of primary care services by working with Federally Qualified Community Health Centers and other organizations to help place physicians in underserved areas.

The PCO administers and/or makes recommendations regarding the placement of foreign medical graduates through the J-1 Visa waiver programs. Through these programs, an exchange visitor can be granted a waiver of the two-year foreign residence requirement of the Immigration and Nationality Act if their stay is in the public interest and they agree to serve in underserved areas. There are currently 86 foreign providers actively practicing in Mississippi – 17 placed through the Appalachian Regional Commission, 69 placed through the State 20/30 Program, and one through the Delta Regional Authority.

The PCO also assists the National Health Service Corps (NHSC) in the placement of health care professionals – primary care physicians, dentists, nurse practitioners, and psychiatrists – in health professional shortage areas through loan repayment and scholarship programs. The current NHSC field strength is 53 and growing as a result of President Bush's Management for Growth initiative. The NHSC seeks to improve the health of underserved Americans by bringing quality primary health care

professionals to communities in need, as well as supporting communities in their efforts to build better systems of care.

Public Health Preparedness and Response for Emergencies

In 1998, the Centers for Disease Control began providing funds to state departments of health to prepare for and respond to bioterrorism. Since then, the Mississippi State Department of Health has used those funds to improve the capabilities of the Department to respond to all public health emergencies, including bioterrorism.

Following the events of September 2001 and the subsequent anthrax incidents that affected the nation, Congress approved an unprecedented increase in funding for public health to combat bioterrorism and improve the public health infrastructure of the nation. Every state received money in seven emphasis areas to improve response efforts. Mississippi's response efforts are based on the overarching principal that all response is local. In essence, the response begins before the threat is fully recognized, emphasizing the need for a well-trained, well-coordinated response plan. The following outline represents the basic response plans and efforts based on the areas of emphasis as identified by the CDC.

Preparedness Planning focuses on the Department's ability to respond to all emergencies, including acts of bioterrorism. For the first time, the Department has had the opportunity to position emergency response coordinators in each district, with the direct responsibility of strengthening ties with the community and helping integrate public health into local emergency response efforts. Further, this emphasis area highlights *readiness assessment*, which the Department will use to identify deficiencies in the response system and to make plans for future improvements.

Surveillance and Epidemiological Capacity has been greatly enhanced with the funding from this grant. Both technological and human resources have been enhanced to improve surveillance activities and move toward a "real time" reporting system, the National Electronic Disease Surveillance System (NEDSS). NEDSS is being implemented in association with the bioterrorism program to link Mississippi to a national reporting system and improve response efforts beyond the state. Many of the grant activities proved invaluable in implementing the Department's smallpox vaccination program, and will continue to provide increased coverage to combat emerging public health issues such as West Nile Virus and Severe Acute Respiratory Syndrome (SARS).

Laboratory Capacity has been enhanced in two separate areas: *Biological Agents* and *Chemical Agents*. While the Chemical Agent funding is new for the 2003-2004 funding cycle, the Biological Agents funding has already greatly improved laboratory capacity to respond in testing for agents such as anthrax, and has provided much-needed equipment and staff. The Public Health Laboratory (PHL) has been able to implement a coordinated training program for other laboratories statewide, and has added a molecular biology section to the lab. One of the biggest problems facing the PHL at this time is finding space to conduct the tests; that problem is going to be solved, in part, with installation of a modular unit later this year. That unit will be necessary to further increase lab capacity to test chemical agents.

The *Health Alert Network* is responsible for providing accurate, timely health alerts and information to appropriate audiences through secure channels. Building on systems already in place in the surveillance program, the MS-HAN plans to upgrade alerting capabilities to include the ability to provide health alert messages via multiple channels to physicians, emergency rooms, infection control specialists, and non-traditional partners in law enforcement, emergency response, and fire departments. Further, the system will integrate with other information systems as part of the Public Health Information Network (PHIN), which includes HAN, NEDSS, the Laboratory Response Network (LRN), and other CDC-sponsored efforts.

Risk Communication and Health Information Dissemination focuses on the Department's ability to communicate high-risk and highly technical information to both the media and the public. Communications with the media focus on clear, concise messages prepared and delivered by public health professionals trained in media relations. Information for the public includes general information regarding bioterrorism and other public health emergencies, including emerging infectious diseases. The grant funding has allowed the Department to upgrade and expand the web site capabilities, providing a more streamlined and user-friendly vehicle for both public communication and services.

Education and Training are the foundation for preparing any team for response efforts. Through this grant, the Department plans to work toward a comprehensive, cohesive training plan for employees with an emphasis on workforce development and emergency response. Creation of a Learning Management System which links to a national system and gives employees the opportunity to select training is planned, as well as strengthening existing partnerships within the South Central Public Health group, a consortium which includes the state health departments in Mississippi, Louisiana, Alabama, and Arkansas, and the Schools of Public Health at the Tulane University School of Public Health and Tropical Medicine and the University of Alabama at Birmingham.

Through all of these emphasis areas, the grant funding has emphasized improving ties between MSDH and communities, and improving the practice of public health in Mississippi.

In addition, the U.S. Department of Health and Human Services Health Resources and Services Administration began funding in 2002 for a Bioterrorism Hospital Preparedness program. The MSDH Office of Emergency Planning and Response administers this program through its Bureau of Emergency Preparedness. The program is to develop, implement, and intensify regional terrorism preparedness plans and protocols for hospitals, outpatient facilities, EMS systems (both freestanding and fire-based), and poison control centers in a collaborative statewide and regional model.

Surge capacity has been addressed by forming seven emergency preparedness regions; each can address a surge capacity of at least 500 patients presenting as a direct result of bioterrorism, weapons of mass destruction, or other public health emergency. Specific hospitals in each region have been identified as Weapons of Mass Destruction Centers of Excellence. Each of these preparedness-enhanced facilities are receiving pharmaceutical caches, personal protective equipment, decontamination units, communication upgrades, isolation capability upgrades, and training.

Emergency medical services, hospitals, and hospital laboratories will receive benefits as well, including communications improvements, training in planning and response, personal protective equipment, and pharmaceutical caches.